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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/626,916

07/25/2003

David Wei Wang

68.0345

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35204

7590

03/16/2006

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EXAMINER

GAY, JENNIFER HAWKINS

ART UNIT

PAPER NUMBER

3672

DATE MAILED: 03/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/626,916		WANG ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Jennifer H. Gay		3672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 February 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 14-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 July 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the structure positioned along the base pipe as recited in amended claim 11 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-8 and 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Whitlock et al. (US 6,006,829) in view of Mutzenberg et al. (US 4,250,172).

*Regarding claim 1:* Whitlock et al. discloses a mesh screen apparatus used in a wellbore. The apparatus includes a mesh medium having a plurality of layers of mesh material **23** located over a base pipe **10** having openings **12** in its sidewall.

Whitlock et al. discloses all of the limitations of the above claims except for the plurality mesh material layers being interlocked by fibers from one layer extending into and interlocking with fibers in an adjacent layer.

Mutzenberg et al. discloses a filtering mat. Mutzenberg et al. further teaches that the mat includes a plurality of layers (2:59-63; Figures) that are interlocked (1:63-66) by needling the layers.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the layers of Whitlock et al. so that they interlocked as taught by Mutzenberg et al. in order to have created a mechanically stable mesh screen thus preventing damage in the wellbore (2:48-56).

*Regarding claims 2-4:* The mesh material is made up of metallic fiber strands that are arranged orthogonally (10:60-65; this portion of the reference shows that the layers of a filter mesh can be arranged orthogonally).

*Regarding claims 5, 6:* The mesh material forms a seamless tubular (4:47-54; the filter as a whole can be formed of one piece thus the mesh material tubular could be seamless).

*Regarding claim 7:* The mesh medium inherently has a porosity.

*Regarding claims 8, 10:* The mesh material is made up of fiber strands and the porosity of the material could be directly determined by the thickness and diameter of the strands as the size and number of openings in the material would be directly proportional to the thickness and diameter of the strands.

*Regarding claim 11:* The apparatus includes a structure **21** positioned over the base pipe where the mesh medium covers the structure.

4. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Whitlock et al. in view of Mutzenberg et al. as applied to claim 1 above, and further in view of Schulte (US 6,237,780).

Whitlock et al. and Mutzenberg et al. disclose all of the limitations of the above claims except for the mesh material including fiber strands of variable diameter or the mesh medium being of variable thickness.

Schulte teaches a mesh screen apparatus that includes a screen where the mesh material includes fiber strands; the porosity of the material is determined by the thickness of the strands. The strands may also be of variable diameter thus varying the porosity across the medium.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the screen of Whitlock et al. in view of Mutzenberg et al. to include fiber strands of variable diameter and thickness as taught by Schulte in order to have improved the particle separation and reduce the need to frequently clean the screen, thereby maintaining the desired flow rate.

5. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Whitlock et al. in view of Mutzenberg et al. as applied to claim 1 above, and further in view of Castano-Mears et al. (US 6, 457,518).

Whitlock et al. and Mutzenberg et al. discloses all of the limitations of the above claim(s) except for the mesh medium covering only a circumferential portion of the base pipe where the ends of the medium is secured directly to the base pipe.

Castano-Mears et al. discloses an apparatus similar to that of Whitlock et al. Castano-Mears et al. further teaches only partially covering the circumference of the base pipe with a mesh medium (Figures 8A-10B).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the apparatus of Whitlock et al. in view of Mutzenberg et al. in order to have provided a screen that was more manipulatable downhole while still providing effect filtering of wellbore fluid (8:1-20).

6. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Whitlock et al. in view of Mutzenberg et al. and Bayne et al. (US 2002/0007948).

Whitlock et al. discloses a mesh screen apparatus used in a wellbore that includes a plurality of layers of mesh material 23.

Whitlock et al. discloses all of the limitations of the above claims except for the plurality mesh material layers being interlocked by fibers from one layer extending into and interlocking with fibers in an adjacent layer and except for the apparatus including at least one intelligent completion device that is at least partially enclosed by the mesh medium.

Mutzenberg et al. discloses a filtering mat. Mutzenberg et al. further teaches that the mat includes a plurality of layers (2:59-63; Figures) that are interlocked (1:63-66) by needling the layers.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the layers of Whitlock et al. so that they interlocked as taught by Mutzenberg et al. in order to have created a mechanically stable mesh screen thus preventing damage in the wellbore (2:48-56).

Bayne et al. discloses a composite member having a fiber optic line embedded therein (paragraphs [0032] and [0036]). The fiber optic line is used in gravel pack screens to obtain real time data during production.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the apparatus of Whitlock et al. in view of Mutzenberg et al. to include at least one intelligent completion device that is at least partially enclosed by a mesh medium or screen as taught by Bayne et al. in order to have monitored downhole parameters and operations during well production.

### ***Response to Arguments***

7. Applicant's arguments filed February 8, 2006 have been fully considered but they are not persuasive.

Applicant has argued that Whitlock et al. does not teach interlocking layers or interlocking layers where the layers are interlocked by fibers from only layer extending into another.

While the examiner agrees that this feature is not taught by Whitlock et al., it is noted that Mutzenberg et al. has been used to teach a mesh material that includes the above feature. Applicant is arguing the reference as if applied under 35 USC 102 while it was used to reject the claim under 35 USC 103.

*The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See In re Keller, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).*

Applicant has argued that there is no motivation to combine Mutzenberg et al. with Whitlock et al. due to the dissimilar teachings of the references.

The examiner notes that the motivation to combine the references can be found in column 1, lines 48-56 of Mutzenberg et al. Further, the fact that the two references are of dissimilar technologies is irrelevant as Mutzenberg et al. was used merely to teach that it would be obvious to one trying to form a mesh material to use needling to interlock the layers of the material.

*It has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See In re Oetiker, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992).*

### **Conclusion**

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

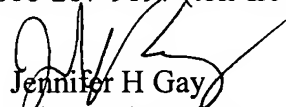
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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer H. Gay whose telephone number is (571) 272-7029. The examiner can normally be reached on Monday-Thursday, 6:30-4:00 and Friday, 6:30-1:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bagnell can be reached on (571) 272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Jennifer H. Gay  
Primary Examiner  
Art Unit 3672

JHG  
March 7, 2006